



OSS Agent Radios

Pete McCollum, N0TDM

It is June 13th, 1942. President Roosevelt enacts a Military Order to form the Office of Strategic Services (OSS) under the leadership of William J. "Wild Bill" Donovan. Thus was created America's first major intelligence organization. Their primary mission initially was to conduct covert operations against Germany, and clandestine communications equipment would be needed for agents operating behind enemy lines. So on September 22nd 1942, General Donovan formed the Communications Branch of the OSS, with an R&D Division created about two months later.

The equipment developed by the OSS typically was given a designation beginning with the letters "SS", for Strategic Services, followed by additional letters to indicate the function of the equipment, and finally a dash and number to indicate a model within the series. Examples include the SSTR-1 (a transmitter-receiver set), the SSR-5 (a receiver), and the SSP-2 (a power supply).

Following are descriptions of four of the Strategic Services radio systems: the SSTR-1, SSTR-4, SSTR-5, and "Joan-Eleanor". These sets represent different technical needs and design goals, but all were developed to serve the urgent needs of World War Two.

The SSTR-1 "Suitcase Radio"

Probably the most famous clandestine radio used by OSS personnel is the SSTR-1 set. It is a portable HF receiver, transmitter, and power supply combina-

tion that was typically carried in a suitcase. Major Henry Shore, a former RCA



Figure 1. The SSTR-1's receiver and transmitter. The transmitter's crystal socket (on the right, center) accepts several different types of crystal holders. Image courtesy of Bill Strangfeld.

employee, was in charge of the development of the SSTR-1. Shore wanted RCA labs in NYC to work on the project, but they were much too busy with other wartime projects, so it was agreed that an RCA employee, Earl Anderson, would work at home on his own time. Mr. Anderson created the first prototype, and manufacturing was contracted out to companies like RDR (Radio Development & Research Corp.) and others. The SSTR-1 was the standard 'agent radio' for OSS personnel, and was eventually used all over Europe and Asia. Many of

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Please Note:

March 0-Beat deadline
February 22, 2004

No content is accepted
after the deadline.

**FOX
HUNT
PLANNED**

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Meetings Our monthly meetings are held on the 2nd Wednesday of each month at 7 pm, temporarily at the El Paso County Office of Emergency Management, 305 S Union Blvd. Our Annual meeting is in October. Check the web site for any changes.

Regular License Exam Sessions

Our ARRL VE test sessions are on the 2nd Saturday of even numbered month. Contact Erik KGØXE for details.

Examinees need to bring (1) \$12, preferably a check or money order payable to ARRL/VEC; (2) picture ID; (3) the signed original and a copy of your current amateur radio license and CSCEs you have (we keep the copies); and (4) a pen, pencil, and calculator if needed. Memory calculators will be checked.

Location:

Colorado Springs Police Department
Falcon Division Community Room
7850 Goddard Street
Colorado Springs, CO 80920

Located behind the shopping center across Academy Boulevard from Chapel Hills Mall. Turn onto Kelly Johnson Blvd from Academy (either intersection), then turn onto Goddard Street (left behind Wendy's or right behind the Burger King and shopping center). Please confine parking to the street, as the parking lot is mostly limited to official police business.

PPRAA Web Page See it at <http://www.qsl.net/ppraa/>. Thanks to Lee Inman KØQED for maintaining these pages.

Get on the PPRAA E-mail Reflector Stay on top of new or short-fused developments. Subscribe at <http://mailman.qth.net/mailman/listinfo/ppraanet>. Thanks to John Wishart KCØJFH for maintaining this list.

PPRAA Simplex Net New time and day to be announced soon.

Nonprofit Organization The PPRAA is a federal 501(c)(3) nonprofit organization and welcomes all contributions. Your contributions/ donations may be tax-deductible.

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* Indicates this Director is in the 2nd year of a two-year term

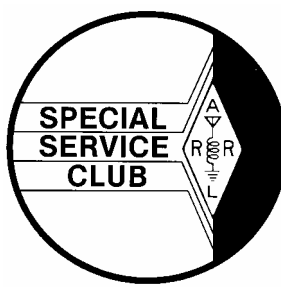
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Upcoming Club Programs

February Program: Home Brew Night

This month's program is the Home Brew Night, which was pre-empted from January for the BPL presentation. Take a look at all of those technological marvels you may have assembled, built, or jerry-rigged in the past year or so, and decide which ones you'd like to bring in to demonstrate or show to your fellow members and guests. As in recent years, we will attempt to have tables set up in front for placing all of that gadgetry, and we will try to work our way through each participant's description of their toys and hopefully still get out of the building before 9:00.



Articles for the Ø-Beat Deadline for articles or ads is the 26th of the month. Submit articles by e-mail, US Mail, telephone or in person to the editor. Editor reserves right to edit for readability, grammar, spelling, punctuation and length.

Ø-Beat Available Electronically in PDF form via e-mail and on the web at <http://www.qsl.net/ppraa/zerobeat.htm>. Contact the editor for details.

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Club and Local News

Presidents Message

Feb 2004

Wasn't that a great meeting last month! We had interesting reports, several new features, lots and lots of members, and an outstanding guest speaker! Jim Pierson N1SZ gave an excellent presentation on Broadband over Power Line (BPL). Everyone's enthusiasm was so evident that Jim decided to join the PPRAA – well done to those who were there!

As Jim explained, BPL is a serious threat to users of the HF and low VHF spectrum. Amateurs were the first to recognize this, but other agencies have finally awakened to the danger. The club executive discussed BPL at the last board meeting. We are looking at several options to lend support to those who are working to ensure BPL does not cause interference to licensed users of the spectrum. The PPRAA has already donated \$500.00 to the ARRL to cover legal and laboratory expenses. We can do more - perhaps a resolution to send to the FCC, or maybe we could initiate a letter-writing campaign. Whatever we do, we will need the support of each and every club member. No matter what your interests are – HF or VHF – **this affects you! Please take an interest.**

A new feature at club meetings is the **Technical Talk**. Each month an expert in a topic of interest will give a short presentation about it, complete with a handout indicating where you can obtain more information. Rick K0SU described PSK31 at the last meeting. Future meetings will have members talking about antennas, meteor scatter, SSTV – you name it and we'll find someone to talk about it!

Rick K0SU has also started taking names for a **General Course**. So far he has close to a dozen people who are interested in upgrading. Morse Code will probably be an integral part of the course. I don't care what side of the CW / no CW debate you are on! The fact of the matter is that if you want to join the action on HF, then you need CW. That requirement might change in the future, but if you wait until then you'll miss an awful lot of fun in the meantime!

Foxhunting season will open soon! Bill N0NJX and Greg WA2OOD have indicated that they will organize a hidden transmitter hunt (I have to specify what a foxhunt is – I don't want Greenpeace after me!) in February. This will be a fairly easy one – on foot in a public place. They did say that it would cover not just 2 meters, but HF as well. You might want to open the ARRL Antenna Book to the chapter on Radio Direction Finding to get a loop antenna design!

A reminder that **Field Day is coming up** – it's the last full weekend in June. Remember – don't do anything stupid like

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PPRAA Club Meeting Minutes 1/14/2004

The meeting was called to order at 7:00 pm by President Al Penney VO1NO. Silent Keys were recognized: Rosie Calaway WA0MNL; George Hinds N8CIX; A. J. Hoggins W0NR. This was followed by introductions around the room. Both the November and December meeting minutes were approved. John K0AAI gave the Treasurer's report reflecting an overall balance of \$6526.43 and reminded everyone that membership dues are now due. Committee Reports followed: Mike K0TER mentioned Packet training that will be held by ARES on Saturday, January 24th. Les KC0NC noted the city/county exercise to be held in the second quarter of the year that will involve a simulation on weapons of mass destruction; we all should be prepared to respond when called upon.

Kate WB9BAH announced the Swap Fest is scheduled for June 12th at Lewis Palmer High School. The major raffle prizes are in and thanked the Cheyenne Mountain Repeater Group for their donation of an ICOM 2720H. Raffle tickets will be available next month.

Kate needs a Co-Chair in case she can not serve next year.

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Board Meeting Minutes

1/19/04

The Board of Directors met at the home of K0AAI on 1/19/04. President Al Penney VO1NO called the meeting to order at 7:00 pm. Those in attendance were Secretary – Joanie VerDuft KC0GMI, Treasurer – John Hasling K0AAI, Jerry VerDuft AD0A,

Kate Muniz WB9BAH, Ben Cruise N0LNW, and Tom McDaniel N0NTX. Absent were VP- Dennis Major N0ABC and ZB Editor – Tom Dawson KC0NRZ. The November Board meeting minutes were approved. The November The Treasurer's report was reviewed and discussed noting that there were still a lot of members who had not yet paid their membership renewal dues. Jerry AD0A advised VO1NO that the ARRL affiliated club data base is now updated and provided Al with information on obtaining monthly notifications from ARRL regarding new licensees in the Colorado Springs area. Jerry also moved that we donate \$50 to QTH.net, our club website host. It was seconded by Kate WB9BAH and unanimously approved. Kate asked about our inventory list; Al has not yet received it from K0TER. Kate also suggested we have a first aid kit for club events. Kate will investigate the cost and report back to the Board. Kate noted that the Red Cross Office is moving; Ben advised that the PPRAA/ARES equipment is being moved to the

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these sets were still in use when the CIA was formed in 1947, and were probably relied upon until about 1950, when new CIA-developed sets became available.

During the war, several versions of the receiver and transmitter were produced, along with at least 4 types of power supplies. The receiver underwent the most



Figure 2. This picture shows an SSTR-1 set being operated from a 6V wet-cell battery, somewhere on the grounds of the OSS training base known as "Area C", in Virginia. National Archives photo.

significant changes, as indicated by the tube complement for three known variants:

SSR-1-A: 6J5 RF, 6K8 osc/conv., 6SC7 IF/detector, 6SC7 audio.

SSR-1-E: 6SG7 RF, 6SA7 osc/conv., 6SG7 IF (2000 KC), 6SQ7 detector, 6SN7 BFO/audio.

SSR-1-G: 7V7 RF, 7Q7 osc/conv., 7V7 IF (455 KC), 7V7 BFO, 7F7 detector/audio.

The SST-1 transmitter uses a 6L6 tube in a classic MOPA design. To allow the transmitter to 'load' into a variety of antennas (typically simple wire arrangements), the output network includes a rotary inductor. Power output was 8-15 watts.

Power supplies for the SSTR-1 set (such as the standard SSP-1) allow operation from various AC voltages and/or 6 VDC, depending on the model. A military hand-crank generator could also be used to operate the set. There is also a wood-burning thermocouple device (the SSP-3) that was used for charging 6 volt batteries in the field. While being used in Asia, the SSP-

3 earned the nickname 'YTB-1', for "Yak Turd Burner".

The SSTR-4 Radio Set

The SSTR-4 is a relatively large, semi-portable HF transceiver developed by RDR Corp. in late 1943. It includes the SSR-4 receiver, SST-4 transmitter, and SSP-4 power supply. The SSR-4 receiver tunes 2-18 MC in two bands with a standard 455 KC IF. The SST-4 transmitter is CW-only, tunes 2.4-16 MC with a crystal or VFO, and has a 100 watt output using an 813 final. The SSP-4 power supply unit accepts 105/115/125 VAC 60 CPS input at 400 watts. The SSTR-4 set also includes a 400 watt gasoline powered generator.

The SSTR-4 was intended for semi-permanent installations, such as base stations in relatively secure areas, or perhaps for mobile installations mounted in a truck. It could be used to relay messages to or from agents in the field, who would likely have an SSTR-1 set.

The SSTR-5 Radio Set

This set was apparently developed late in the war, was considerably smaller than the SSTR-1, and was carried in a canvas shoulder bag. Components include the SSR-5 receiver and the SST-5 transmitter. The set was designed to be operated from battery power (the receiver uses 135V, 6V, and 1.5V). Transmitter power is about 500 mW. All tubes are the miniature 1.5 volt



Figure 3. The transmitter and receiver of the SSTR-5 radio set. Image courtesy of Bill Howard.

filament type, as found in many commercial portable radios in the 1950's. The manufacturer of the SSR-5 receiver apparently had extra stock after the war, as the receivers were sold commercially in kit form, and advertised in magazines (with no explanation of where they came from).

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The SSTR-6 and SSTC-502 - "Joan-Eleanor"

This system, nicknamed "Joan-Eleanor", was developed beginning in late 1942 by Dewitt R. Goddard and Lt. Cmdr. Stephen H. Simpson. Mr. Goddard's wife's name was Eleanor, and Joan was reportedly an acquaintance of Cmdr. Simpson. The project, originally proposed by Lt. Col. Henry Shore, involved producing a pair of transceivers; one for use by an agent on the ground, and the other mounted in an aircraft flying overhead. The system would be in the UHF band, since it was known that the Germans could not effectively monitor those frequencies. The agent would make his report using plain speech, and the aircraft would record the transmission on a wire recorder. Since Morse was not needed, the



Figure 4. The handheld "Joan" (SSTC-502) portion of the Joan-Eleanor system. The upper-right image shows the folding antenna and earphones connected. Images courtesy of T.B.

agent's training time was greatly reduced, which was considered a valuable feature in the German theater. In addition, the aircraft could ask for immediate clarification on certain points, without the delay of encryption and decryption.

The hand-held SSTC-502 transceiver uses a dual triode as a combination super-regenerative detector during receive, and an oscillator during transmit. Two other tubes act as a microphone amplifier and modulator. The antenna is a simple dipole, attached to the top of the

unit. The operating frequency is 260 MC (the original design was for 250 MC, but it was learned that the Germans had a sweep receiver that operated up to 250 MC). The only controls are for regeneration and tuning (apparently for fine tuning only). Battery power consists of two "D" cells in parallel for the filaments, and two 67.5V batteries for the plates.

The airborne SSTR-6 transceiver uses an 832A tube as a MOPA, modulated by a pair of 42 tubes. The receiver

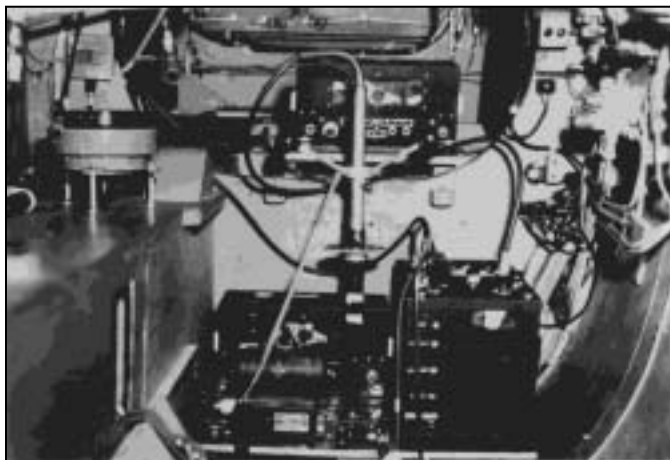


Figure 5. The SSTR-6 ('Eleanor') installed in a Mosquito aircraft. Some items visible in the picture: the SSTR-6 at lower-right, dynamotor P.S. at lower left, wire recorder at upper center, and the antenna rotating spindle in the center. National Archives photo.

portion is a super heterodyne that includes two RF amp stages, two limiter stages, and an FM detector. Power was supplied by four 6V wet-cell batteries which operated the filaments and a dynamotor. The SSTR-6 equipment was mounted in the space normally occupied by an aerial camera. The types of aircraft used included the B-17 and the British Mark XVI "Mosquito" bomber. The Mosquito was used for most missions, and was preferred because of its high speed and high altitude capabilities, making it unreachable to most German defenses.

FOX HUNT PLANNED

PPRAA is planning to have both a VHF signal hunt followed by an HF noise source hunt. So everybody can participate in both if they want.

The tentative location will be at Palmer Park, but this will be confirmed prior to the hunt.

For additional information contact:

Bill Petty N0NJX or Greg Tarcza WA2OOD

HF Operations

DX Location of the Month

Sierra Leone

The DX Location for this month is the Republic of Sierra Leone. A small country on the west coast of Africa, Sierra Leone is bordered to the north by Guinea, and to the south by Liberia. It has an area of 71,740 sq km, making it a little smaller than South Carolina. Its 6 million inhabitants are composed primarily of native Africans, with 10% descended from freed Jamaican slaves, and with small numbers of Europeans, Lebanese, Pakistanis and Indians.

The official language is English, although only the educated minority speaks it. Krio, a version of the English-based Creole imported by the freed slaves, is the mother tongue of 10% of the people, but is understood by 95%. Sixty percent of the population is Muslim, 30% have indigenous beliefs, and



At the beach with a Canadian ham - sorry I can't remember her call sign!

10% are Christian.

Sierra Leone is an extremely poor country. Several times in the past 10 years it has been rated by the United Nations as the worst nation in the world in which to live. Most of the population lives in abject poverty. The infant mortality rate is 145/1000 births. This compares very poorly with the American rate of 6.9/1000 births in the year 2000.

Since 1991, civil war between the government and the Revolutionary United Front (RUF) has resulted in tens of thousands of deaths and the displacement of more than 2 million people (well over one-third of the population), many of whom are now refugees in neighboring countries. One of the more barbaric practices of the rebels was to amputate the limbs of their victims. After several setbacks, the situation is improving. The United Nations Assistance Mission in Sierra Leone (UNAMSIL) has succeeded in disarming most of the warring factions, and the country held national elections in May 2002.

Despite the extreme poverty, Sierra Leone has the potential

to become a wealthy country. Diamond mining is the major source of hard currency at present. Apparently, diamonds are so plentiful that they can be scooped off the ground in the interior of the country! Bauxite (aluminum ore) and rutile (titanium ore) can also be found in the interior.

I visited Sierra Leone for a week 2 years ago. Canada has troops assigned to the United Nations mission, and also provides military instructors for the reborn army and navy. I was on a special assignment at the time to evaluate the living and working conditions of deployed Canadian Forces personnel. I had considered bringing an Amateur Radio with me, but in view of the possibility of it being confiscated by customs officials - or of being thrown into a Sierra Leone jail



The Officers' Mess at the 6th Battalion Headquarters - a bamboo and straw building that wasn't there a week before! The small antenna in the background is for the officers' TV.

on spying charges - I decided against it!

I had learned that there was an active Amateur in the capital, Freetown, while I was to be there. "Not a problem," I thought - "I'll be able to spot an HF antenna a mile away and drop in to say hi. Heck, I might even be able to get some operating in." Was I ever surprised! Freetown is the home

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Satellite Operations

AO-27, the first FM voice satellite, has recovered from a problem and is fully operational. This sat can be easily worked with a dualband HT and a small hand held beam antenna such as the Arrow Dual Band Beam. Two separate radios can also be used, one for the uplink and one for the downlink.

436.795 MHz (+-Doppler) FM Downlink

145.850 MHz FM Uplink

These are the passes for February weekends: (passes are shown for 18 degrees and higher elevations)

Time(Z) Azimuth Elevation Rx Doppler

Saturday, February 07, 2004 (UTC)

14:00:00	9.7°	+3.0°	+10 KHz
14:03:00	6.7°	+19.2°	+5 KHz
14:06:00	341.8°	+60.7°	0
14:09:00	209.5°	+36.0°	-5 KHz
14:12:00	201.7°	+10.3°	-10 KHz
23:39:00	119.9°	+1.6°	+5 KHz
23:42:00	99.2°	+11.7°	+5 KHz
23:45:00	61.6°	+17.6°	0
23:48:00	25.4°	+10.9°	-5 KHz
23:51:00	6.3°	+1.0°	-5KHz

Sunday, February 08, 2004 (UTC)

01:18:00	178.8°	+5.9°	+10KHz
01:21:00	189.3°	+24.8°	+5KHz
01:24:00	260.6°	+57.5°	0
01:27:00	330.1°	+24.7°	-5KHz
01:30:00	340.6°	+6.2°	-10KHz
13:33:00	19.0°	+7.8°	+10KHz
13:36:00	29.6°	+28.4°	+5KHz
13:39:00	117.7°	+60.6°	0
13:42:00	175.5°	+22.7°	-5KHz
13:45:00	183.6°	+4.8°	-10KHz

Monday, February 09, 2004 (UTC)

00:51:00	160.2°	+12.0°	+10KHz
00:54:00	153.3°	+41.3°	+5KHz
00:57:00	4.0°	+55.2°	0
01:00:00	351.1°	+16.9°	-5KHz
01:03:00	349.4°	+1.8°	-10KHz

Saturday, February 14, 2004 (UTC)

14:03:00	8.3°	+5.5°	+10KHz
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Time(Z) Azimuth Elevation Rx Doppler

14:06:00	2.7°	+24.0°	+5KHz
14:09:00	301.9°	+66.9°	0
14:12:00	210.6°	+27.8°	-5KHz
14:15:00	203.4°	+7.0°	-10KHz
23:42:00	118.2°	+4.2°	+5KHz
23:45:00	94.1°	+14.7°	+5KHz
23:48:00	52.5°	+18.3°	0
23:51:00	19.4°	+9.4°	-5KHz

Sunday, February 15, 2004 (UTC)

01:21:00	182.4°	+8.6°	+10KHz
01:24:00	198.2°	+30.0°	+5KHz
01:27:00	285.9°	+50.2°	0
01:30:00	331.3°	+19.4°	-5KHz
01:33:00	340.8°	+3.6°	-10KHz
13:36:00	18.8°	+10.9°	+10KHz
13:39:00	30.9°	+36.2°	+5KHz
13:42:00	151.0°	+56.0°	0
13:45:00	181.1°	+18.1°	-5KHz
13:48:00	186.4°	+2.4°	-10KHz

Monday, February 16, 2004 (UTC)

00:51:00	163.4°	+1.1°	+10KHz
00:54:00	162.5°	+16.1°	+5KHz
00:57:00	156.3°	+54.1°	0
01:00:00	352.6°	+43.7°	-5KHz
01:03:00	349.0°	+13.1°	-10KHz

Saturday, February 21, 2004 (UTC)

14:06:00	6.5°	+8.3°	+10KHz
14:09:00	356.7°	+29.8°	+5KHz
14:12:00	261.1°	+60.2°	0
14:15:00	211.3°	+21.4°	-5KHz
14:18:00	204.7°	+4.1°	-10KHz
23:45:00	116.1°	+7.0°	+5KHz
23:48:00	87.5°	+17.8°	0
23:51:00	43.1°	+18.2°	0
23:54:00	14.1°	+7.6°	-5KHz

Sunday, February 22, 2004 (UTC)

01:24:00	186.8°	+11.6°	+10KHz
01:27:00	210.4°	+35.3°	+5KHz
01:30:00	300.7°	+41.0°	0
01:33:00	332.4°	+14.9°	-5KHz
01:36:00	341.1°	+1.2°	-10KHz
13:36:00	14.7°	+0.6°	+10KHz

Time(Z) Azimuth Elevation Rx Doppler

13:39:00	18.4°	+14.6°	+5KHz
13:42:00	33.0°	+47.1°	0
13:45:00	171.3°	+46.3°	0
13:48:00	185.5°	+14.0°	-5KHz
13:51:00	188.8°	+0.0°	-10KHz

Monday, February 23, 2004 (UTC)

00:54:00	165.3°	+3.7°	+10KHz
00:57:00	165.5°	+21.0°	+5KHz
01:00:00	164.4°	+71.2°	0
01:03:00	347.2°	+34.1°	-5KHz
01:06:00	347.5°	+9.6°	-5KHz

Saturday, February 28, 2004 (UTC)

14:09:00	3.9°	+11.4°	+10KHz
14:12:00	347.2°	+36.5°	+5KHz
14:15:00	242.0°	+48.0°	0
14:18:00	211.9°	+16.1°	-5KHz
14:21:00	205.9°	+1.3°	-10KHz
23:48:00	113.3°	+10.2°	+5KHz
23:51:00	79.2°	+20.8°	0
23:54:00	34.1°	+17.1°	0
23:57:00	9.5°	+5.6°	+5KHz

Sunday, February 29, 2004 (UTC)

01:24:00	182.5°	+1.0°	+10KHz
01:27:00	192.1°	+14.9°	+5KHz
01:30:00	226.8°	+39.6°	0
01:33:00	309.7°	+32.8°	-5KHz
01:36:00	333.5°	+11.1°	-10KHz
13:39:00	14.3°	+3.0°	+10KHz
13:42:00	17.6°	+19.1°	+5KHz
13:45:00	37.6°	+62.1°	0
13:48:00	182.5°	+36.5°	-5KHz
13:51:00	189.0°	+10.3°	-10KHz

Monday, March 01, 2004 (UTC)

00:57:00	167.5°	+6.5°	+10KHz
01:00:00	169.5°	+27.0°	+5KHz
01:03:00	269.5°	+84.7°	0
01:06:00	344.3°	+26.5°	-5KHz
01:09:00	346.4°	+6.5°	-10KHz

Please feel free to contact me if you have any questions.

73 Tom n0ntx, 570-1465 or n0ntx@amsat.org

Letter from our Guest Speaker

Al,

Once again, thank you for having me as your speaker last night. It was a great pleasure to present to the fine members of the PPRAA. Having made hundreds of presentations to audiences before, it is one thing for a speaker to walk away and say, "I did a good job", but is another to walk away and say, "WOW! That was fun, and the audience was interactive, enthusiastic and extremely interested!" I was truly impressed with the memberships interests not only in BPL, but also the vast interests of the club. This was a driving factor in becoming a member! It is great to see a general interest club that is active! So many clubs claim to be general interest, but rarely meet or are "paper

clubs". It is refreshing.

Thank you again for your offer on Field Day. I've put it in my date book! BTW, here is the W2SZ/! web site: www.mgef.org As a VHF'er, I think you'll enjoy it! As far as Sept. 2001 - our summary page is: www.mgef.org/sep01/index.htm, we have included a few maps of the grids we worked. Let me know if your grid was included.....I'll have our QSL manager go back through the log and make a few for you!

Thanks again, and I'd be pleased to make a presentation on interference, vhf contesting, w2sz or any other topic.

73, Jim, N1SZ

(Continued from page 6)

base for the UN, scores of international aid agencies, and of course, the Sierra Leone government. Because there is very little communications infrastructure in the hilly interior, everyone and their dogs use HF! Practically every UN and aid agency vehicle had a whip and coupler mounted to the front bumper. The walled compounds housing all these different agencies had towers and wire HF antennas. If I did see the antenna belonging to a ham, I never knew it!

I did eventually meet another ham while there. On Sundays,



many Canadians generally head to a beach about 15 miles south of Freetown. I was chatting with a woman from Alberta who was in Sierra Leone as part of a church group assisting orphans. We began to compare notes and I learned that she had been licensed shortly before coming to Sierra Leone. She operated from the country for a short while, but buried the radio in the back yard when the government's situation took a turn for the worse at one point (and I thought the neighborhood associations were bad!). I'm afraid I've forgotten her call sign (I must have been distracted by the bikini!).

While there, we visited the naval base to tour the Sierra Leone's ex-Chinese patrol boat. The drive to the waterfront took us through some of the poorest parts of the city. Once in the patrol boat though I was surprised to find it much cleaner and in better condition than I had expected. In the main magazine however, I noted that 57mm shells were rolling around on the deck. My Canadian Navy Petty Officer guide assured me that that was nothing. I was shocked to learn from him that during the civil war, the crew had used live shells wrapped with rags as plugs to seal

bullet holes! Of course, they pounded them into place with hammers! He was slowly making them understand that that just wasn't a good thing to do...

The navy headquarters was a small building at the head of the jetty. Inside I found the communications room. The equipment consisted of a commercial version of a Yaesu Amateur transceiver, and a half wave dipole strung up outside. All communications were apparently conducted in CW, using frequencies in the 6 MHz range. The young sailor told me that he was quite proficient with the straight key. I asked if I could give it a try, and he was surprised to discover that an officer could pound out some Morse!

According to the latest figures I can find, Sierra Leone has one club station and 37 licensed Amateur Radio operators. It is #58 on the most wanted list on the 425DXNews (sic) website. The most recent information I can find on active operators in Sierra Leone comes from the ARRL DZ Bulletin dated 3 April 2003. Zbig, 9L1BTB has been heard on 40m around 2330Z. His QSL route is via SP7BTB.

Sierra Leone has 1 AM, 9 FM and 2 TV stations. The Sierra Leone Broadcast Service has a shortwave voice using 10 KW



In the Sierra Leone Navy's patrol boat. Communications with the Naval Headquarters was all via CW. Ask me sometime about what the crew used to plug bullet holes!

on 3316 kHz. It's a difficult catch, but not impossible – I listened to it several times when I was doing a lot of shortwave listening in the mid-1990s. Try late in the evening when it is still dark in western Africa. The United Nations has a shortwave station as well. Radio United operates on 6138 kHz from Freetown and broadcasts live in English, although you may hear tribal languages at times. This is a toughie – it uses a few hundred watts in the middle of the 49m band. If you copy this one let me know!

73 and good DX'ing!
AI VO1NO / W0

The Amateur Radio Crossword Puzzler—Black and White and Read II Over

By H. Ward Silver, NOAX

Have fun playing Ham Radio Magazine Publisher! This time we take a cruise through the section of the dictionary that relates to ham radio magazines and all those myriad activities that take place to put *QST* in your hands every month. Put on your green eye-shade, sharpen that editor's pencil and have at it!

Across

2. Main story
5. Repeat a sound
7. One print run of a magazine or book
11. Unwanted ad
13. Battery supplied power (abbr.)
14. What part don't you understand?
15. A writer must also be a good
16. Low Frequency (abbr.)
18. Circular antenna
20. Magazines have one on the front and back
23. Receive magazines via this
24. ARRL and QST founder
25. Sharp and thin for joining or holding
29. Teletype (abbr.)
32. Writes antenna column for Worldradio
34. Writer
36. Type of AC measurement (abbr.)

37. Smell

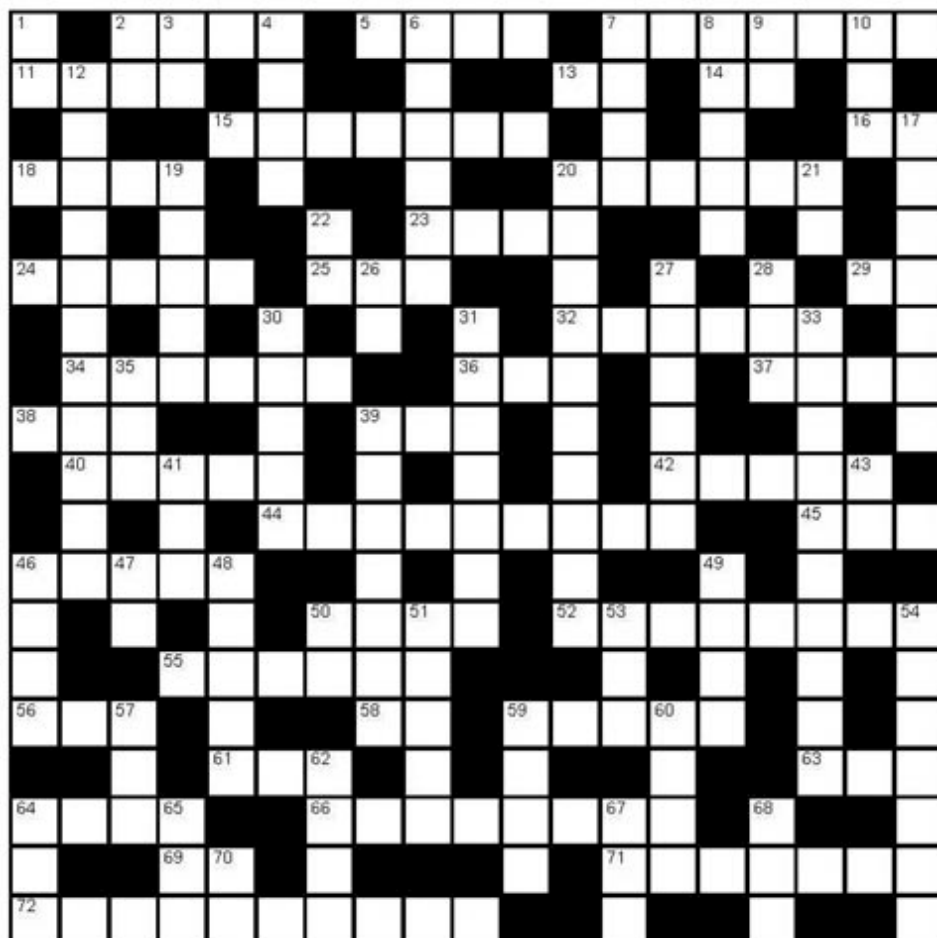
38. File Transfer Protocol (abbr.)
39. When finished, ... it to bed
40. A completed magazine
42. Founder of 73 Magazine
44. Pay to receive magazine
45. Printed
46. Takes a photo
50. Editors must have this quality
52. Last date for submitting material
55. Scan through quickly
56. An idea or suggestion
58. Opposite of she
59. Jerk back and forth
61. Sweet potato
63. Adjustable receive frequency (abbr.)
64. Timely information
66. Put together
69. Intellectual Property (abbr.)

71. Person or business financing an event

72. Reporter

Down

1. Do .. I say
2. Big California city (abbr.)
3. Electromagnetic (abbr.)
4. Regular set of articles (abbr.)
6. Runs every month
7. 5 Across again
8. List of articles
9. In the direction of
10. Lubricate
12. Every ham magazine has a column on this
17. Special article
19. Transfer to paper
20. Ads sorted by topic
21. ARRL sponsors this contest
22. Opinion (abbr.)
26. To be
27. First name of CQ's longest-running columnist
28. Or Best Offer (abbr.)
30. Irwin Math writes this CQ column
31. Story in a magazine
33. Business paying to display information
35. Big brown truck company
39. Own and distribute a magazine
41. Tree fluid
43. Not applicable (abbr.)
46. Long thin hole
47. Antenna tuner (abbr.)
48. QST's short items
49. Not being used
50. CQ sponsors this contest
51. Looks for
53. Estimated Time of Arrival (abbr.)
54. Persons that review and correct material
57. Church seat
59. Identical
60. Retain
62. Send by post
64. Contest magazine
65. Formal salutation for males
67. Bit of least value (abbr.)
68. Last
70. Type of semiconductor junction (abbr.)



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Public Service Communications



ARES

<http://www.qsl.net/ppares/>

VHF Net Tuesdays at 1900 on the 146.97 MHz
PPFMA repeater

Sid White K4ARM, PPARES EC

No updates this month

(Continued from page 3)

She also needs a Table Reservations Chair. Wes's sister Lois will be selling T-shirts at the Swap Fest. We will also have a Fox Hunt after the Swap Fest. Kate needs approval of spending \$600 for rental of the Lewis Palmer HS facility. This was moved/seconded and unanimously approved. Tom NØNTX noted that amateur satellite AO-27 is back up. Bill NØNJX announced that he and Greg WA2OOD will be organizing a Transmitter Hunt for

sometime after the February meeting (probably Sunday after the next meeting.) Mike WV7T noted the Freezoree is scheduled for the last weekend in January at the AF Academy and solicited operators to participate and displays for APRS and ATV. Rick KØSU advised that he would be putting together a General Class course and requested those interested to sign-up for it. The course will probably be held on Tuesday nights.

Rick then gave a short technical talk on PSK31. Well done Rick! VO1NO thanked his XYL Shelly for organizing the Christmas Party; and Rhoda KB2BZY for serving 4 years as our Refreshments Chair. Al asked for volunteers to replace Rhoda and Sharon KCØPBR and Ruth KCØRAW agreed to act as the Refreshments Team. Thanks Sharon and Ruth! Al noted that he is looking for someone to organize this years Field Day, and someone to kick-off the Club's simplex net until he can get a better antenna up (higher). Al is still trying to contact the UCCS Club to determine if we can provide them assistance and or sponsorship. Al also reminded everyone of the informal gathering at IHOP after the meeting. Al then presented the Hammy Award to Sharon KCØPBR and Ken KCØPBQ. Congratulations Sharon and Ken! After a short break, an excellent talk on Broadband Over Power Line was presented by Jim Pierson, N1SZ. Meeting adjourned at 9:25 pm. Respectfully submitted by Joanie KCØGMI, Secretary



RACES

<http://www.qsl.net/epcraces/>

VHF Net Tuesdays at 1930 on the 146.76 MHz
CMRG repeater

Les Borst KCØNC, RACES Officer

No updates this month

(Continued from page 3)

new office. Kate advised that all the major Swap Fest prizes are in and the tickets are ordered. Our table rental prizes will be the same as last year. Kate still needs someone to help with table registrations. Tom NØNTX volunteered to present a Ham Satellite forum at the Swap Fest. Tom will discuss more Satellite news in Ø-Beat. Al noted that the Freezoree was cancelled by the Boy Scouts Council due to security concerns. The Board agreed that "Tech Topics" are good for our club meetings but we need to keep them short so we do not run into our main speakers time. Al is still working the interface with the UCCS amateur radio club and will contact Ron Durbin KCØGLP for assistance. Al advised that KØSU has 8 people signed up so far for the General class course and is interested in new hams from Frank McNally's class being invited to join our club. Al felt the BPL presentation by N1SZ was great and suggested we provide sample letters to be sent to our lawmakers; Kate is working this and will provide this information on our web site. Al also suggested we provide a club resolution regarding the BPL threat; he will draft a resolution and present it to the membership at the February meeting. It was also suggested we have a table at our club meetings for items people want to give away; Al will implement this. Al went over the preliminary list of Field Day station managers. Joanie volunteered to take care of the food for FD. John KØAAI suggested we emphasize call sign badges for the club members. After discussion, Al appointed Joanie and Jerry to look into obtaining samples of badges to present to the membership. Finally, there was a motion to reimburse Kate for table rental at the upcoming February 15th Swap Fest up north to sell tickets to the PPRAA Swap Fest in June. Motion seconded and approved. Meeting was adjourned at 8:30 pm. Respectfully submitted by Joanie KCØGMI, Secretary

New VE Testing Location

After a long time looking for a new home for conducting the VE sessions, we have finally nailed down a location. The new location, set up for each second Saturday of even numbered months in 2004 (except June @ Swapfest), is:

Colorado Springs Police Department
Falcon Division Community Room
7850 Goddard Street
Colorado Springs, CO 80920

This is located behind the shopping center across Academy Boulevard from Chapel Hills Mall. Turn onto Kelly Johnson Blvd from Academy (either intersection), then turn onto Goddard Street (left behind Wendy's or right behind the Burger King and shopping center). Please confine parking to the street, as the parking lot is mostly limited to official police business.

The starting time is still 9:00AM. And our VE Team policies are still: Walk-ins accepted; No retests same session; All elements available each session.

Zero-Beat Articles Needed

Please email to
KCONRZ@ARRL.NET

Jess Miley KØTAA

719 W 7th, Florence, CO, 81226

719-784-3040

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Please call before you drive

Membership Application for the Pikes Peak Radio Amateur Association, Inc.

P.O. Box 16521, Colorado Springs, CO 80935-6521

Date: _____ ☐ New Member ☐ Renewal

Name: _____

Address: _____

City: _____ State: _____ Zip: _____

Call: _____ Class: N T + G A E Phone: _____

Mbr of ARRL? ☐ Yes ☐ No E-mail: _____

Additional Family Members to Join/Renew:

Name: _____ Call: _____ Class: _____ ARRL? _____

Name: _____ Call: _____ Class: _____ ARRL? _____

Name: _____ Call: _____ Class: _____ ARRL? _____

In which activities would you like to participate?

Field Day ☐

Demonstrations ☐

Nets or round tables ☐

Organize activities ☐

Teach ham classes ☐

Full Member \$15: ☐

Family Membership \$18: ☐

Over 65 \$10: ☐

Over 65 Family \$12: ☐

Associate \$12: ☐

Ø-Beat Only \$12: ☐

Donation to Club: \$ _____

Total Enclosed: _____

**MAKE ALL CHECKS PAYABLE
TO "PPRAA"**

Please indicate how you'd like your Ø-Beat delivered:

(Defaults to standard hard copy in the event that NO check boxes are checked)

☐ Standard hardcopy via U.S. Mail

☐ As a PDF file attachment via e-mail, to help save a few bucks

☐ I'll save the club a few bucks and download it from the Web!

Circle your interests Ø HF / V/UHF / FM / SSB / Digital / DX / Contests / Technical / Hardware / Other _____

New and renewing members must submit a completed application form along with your check to the Treasurer.

Please Type or Print Clearly!

ALL NEW MEMBERSHIPS AND RENEWALS WILL BE PRORATED TO EXPIRE IN DECEMBER!!

Classifieds

To place a classified ad please email to KCONRZ@ARRL.NET. Ad should be short and concise. Remember to include a phone number and email address.

(Continued from page 3)

getting married on that weekend. Your XYL would be very upset to have you gone on every anniversary Field Day weekend in the future!

Finally, a reminder that this month is **Home Brew month**. Bring in your projects for a "show and tell" at the meeting and let us all know what a great builder you are! I hope to see you all there.

73, AI VO1NO / W0

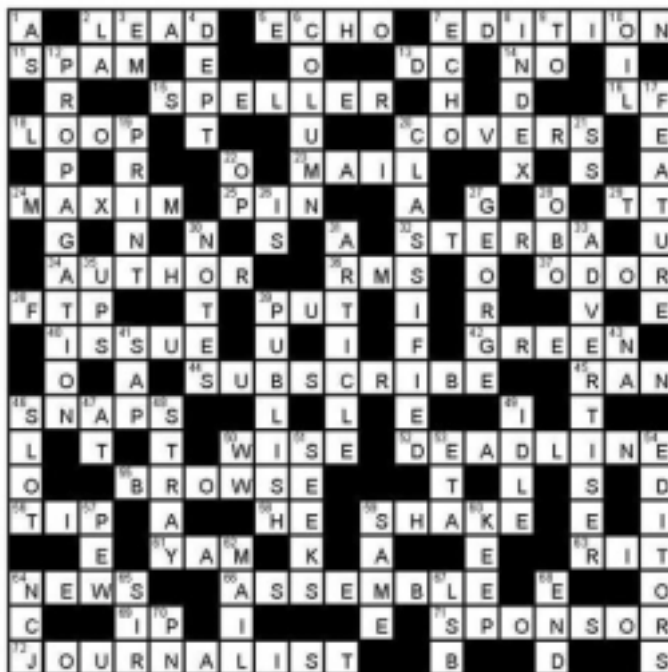
Pikes Peak Region Ham Radio Events

Date	Event
2/10/2004	PPRAA Club meeting
2/16/2004	PPRAA Board meeting
2/8/2004	PPRAA VE Testing
2/18/2004	Marc club meeting

Membership Committee Report

Les, KCØNC

No report for January



Pikes Peak Radio Amateur Association, Inc.
P.O. Box 16521
Colorado Springs, CO 80935-6521 USA

First Class Mail

To: